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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,222	10/24/2005	Toshihito Miyama	P28518	7957
7055      7590      09/28/2009 GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191				
EXAMINER				
EICHELMAYER, ALIX ELIZABETH				
ART UNIT		PAPER NUMBER		
1795				
NOTIFICATION DATE		DELIVERY MODE		
09/28/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com

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# Office Action Summary

## Application No.

10/554,222

## Applicant(s)

MIYAMA ET AL.

## Examiner

Alix Elizabeth Echelmeyer

## Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 13-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-854)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date See Continuation Sheet

Continuation of Attachment(s) 3. Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :10/24/05,11/22/05,5/24/06,7/14/06.

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of the restriction requirement in the reply filed on July 10, 2009 is acknowledged. The traversal is on the ground(s) that the invention does not lack unity. This is not found persuasive because, as discussed in the restriction requirement, the examiner has found that the invention lacks unity due to the different methods by which the product can be made - there is not a specific method for making the invention, there are several.

The requirement is still deemed proper and is therefore made FINAL.

***Information Disclosure Statement***

2. The information disclosure statement filed October 24, 2005 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language, specifically JP 10-503788, JP 4-366137, and JP 6-342665. It has been placed in the application file, but the information referred to therein has not been considered.

3. The information disclosure statement filed May 24, 2006 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in

the English language, specifically JP 9-040911. It has been placed in the application file, but the information referred to therein has not been considered.

4. The information disclosure statement filed May 24, 2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed, specifically the Kawahara et al. reference. It has been placed in the application file, but the information referred to therein has not been considered.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

6. Claims 1, 6, 9, and 10 are rejected under 35 U.S.C. 102(a) as being anticipated by Nomura et al. (WO03/041091, with US 7,214,756 used as translation).

Nomura et al. teach the Formula of claim 6 ('756 claim 2) with the Formula of claims 9 and 10 ('756 claims 8 and 9), the combination of which results in instant claim

1.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 2, 3, 6, and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Honma et al. (JP 2002-309016).

Honma et al. teach a proton-conductive membrane having a cross-linked support structure and a proton conducting structure (abstract). The proton-conducting agent contains acid, for example, sulfonic acid ([0050]).

As for claims 2, 3, and 6, the formula of the cross-linked structure of Honma is the same as the instant claims ([0022], [0031]).

With regard to claim 33, the membrane is for use in a fuel cell ([0002]).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 4, 5, and 7-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Honma et al. in view of Curlier et al. (US 2004/0197613).

The teachings of Honma et al. as discussed above are incorporated herein.

With regard to claims 4 and 5, Honma et al. fail to teach the porosity of the membrane. The skilled artisan would recognize that the porosity of the membrane is result effective, since the membrane holds the electrolyte which allows for the fuel cell

reaction to occur. The skilled artisan would be motivated to optimize the porosity of the membrane as is known in the art in order to improve the fuel cell. MPEP 2141 III (C).

Likewise, with regard to claims 7 and 8, the skilled artisan would be motivated to optimize the amount of cross-linkage, since the density of the membrane would affect the porosity.

As for claims 9-12, Honma et al. teach the proton conducting element containing sulfonic acid but fail to teach the claimed formula.

Curlier et al. teach a porous cross-linked membrane having a silicon-containing acid group attached to the cross-linked material ([0204]). When the silicon-containing acid group is attached to the cross-linked material of Honma et al., such as taught by Curlier et al., the structure of claim 12 results.

The skilled artisan would recognize that it would be desirable to attach the proton conducting material to the membrane, since it would prevent the material from becoming disturbed during the operation of the fuel cell.

### ***Double Patenting***

11. Claims 1, 6, 9 and 10 are rejected on the ground of nonstatutory double patenting over claims 1, 2, 8, and 9 of U. S. Patent No. 7,214,756 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming

common subject matter, as follows: the claims of '756 include the claimed cross-linked support with the claimed proton conducting structure (see above).

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alix Elizabeth Echelmeyer whose telephone number is (571)272-1101. The examiner can normally be reached on Mon-Fri 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PATRICK RYAN/  
Supervisory Patent Examiner, Art Unit 1795

Alix Elizabeth Echelmeyer  
Examiner  
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aee